

ABSTRACT OF THE DISCLOSURE

A sonic drilling head includes a spindle which is both rotated and vibrated at sonic frequency to effect ground penetration of members such as drill rods, etc. Two pairs of rotating eccentric masses are mounted in a sine generator housing. The pairs of masses have intersecting axis. A spiral bevel gear and drive shaft rotate the first pair of masses which engage the second pair of masses so that the pairs of masses are driven in opposite directions. Rotation is imparted to the spindle through a geared bearing isolated by a pack of precision disc springs, which also cooperate with a second set of precision disc springs to isolate the vibrations of the rotating eccentric masses from an outer housing of the sonic drill head.